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Annual Report

1986-1987

Alberta

FORESTRY, LANDS
AND WILDLIFE

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Alberta
FORESTRY, LANDS and WILDLIFE
Office of the Minister
403 Legislature Building, Edmonton, Alberta, Canada T5K 2B6 403/427-3674

1988 May 31

The Honorable Helen Hunley
Lieutenant Governor of the
Province of Alberta

May it please your Honor:

For the information of your Honor and the Legislative Assembly, it is my privilege to present the Annual Report of the Department of Forestry, Lands and Wildlife, for the fiscal year ended 1987 March 31.

Respectfully submitted,

LeRoy Fjordbotten
Minister of Forestry,
Lands and Wildlife

Minister's Message

The natural resources of this province are of particular importance to Albertans. Our forests, lands and wildlife form a noteworthy legacy, which must be especially cared for to ensure their lasting value for not only those Albertans of today, but those of tomorrow. As manager of these resources, Forestry, Lands and Wildlife administers a wide range of programs designed to meet the many responsibilities and challenges involved in the proper maintenance of this special heritage.

The 1986-87 year was marked by significant initiatives in numerous areas and an integrated approach to resource management. Departmental staff worked extremely hard to help us meet our objectives, and for their continuing dedication I thank them.

A major step in forestry was taken with the establishment of the Forest Industry Development Division. Designed to promote greater development of Alberta's vast timber resource, this division is an outstanding contribution toward this government's goal of economic diversification.

While the department encourages resource development, it is understood that resource use should not take place at the expense of the environment. To this end, a new forest land use zone in the Bow/Crow Forest of southwestern Alberta was established, while five forest land use zones created in 1985 received permanent status. Such zones ensure the preservation of these areas for the future enjoyment of all Albertans.

In the area of public lands, a task force of seven members obtained public feedback on grazing lease conversions. The request for opinions on matters of policy reflected the department's emphasis on continuing involvement and input from the public.

Elsewhere, the establishment of two new natural areas led to the conservation of 1 480 hectares of land. Similarly, work on integrated resource plans for public lands was cause for the approval of three new plans, while preparation continued on 11 more.

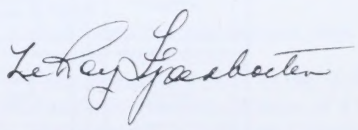
The year saw several major initiatives taking place in the fish and wildlife area. Numerous projects were undertaken, many of them associated with Wildlife '87, the commemoration of the establishment of the first wildlife sanctuary. Counted among these projects was the signing by Canada and the United States of the North American Waterfowl Management Plan.

The proclamation of the new Wildlife Act and Regulations put into place a number of important pieces of legislation, all offering renewed protection to fish and wildlife resources.

In the area of fisheries, the completion of the Cold Lake Fish Hatchery brought the number of fish culture facilities in the province up to five, while new sport fishing regulations served to lessen on the resource the impact of a sport growing in popularity.

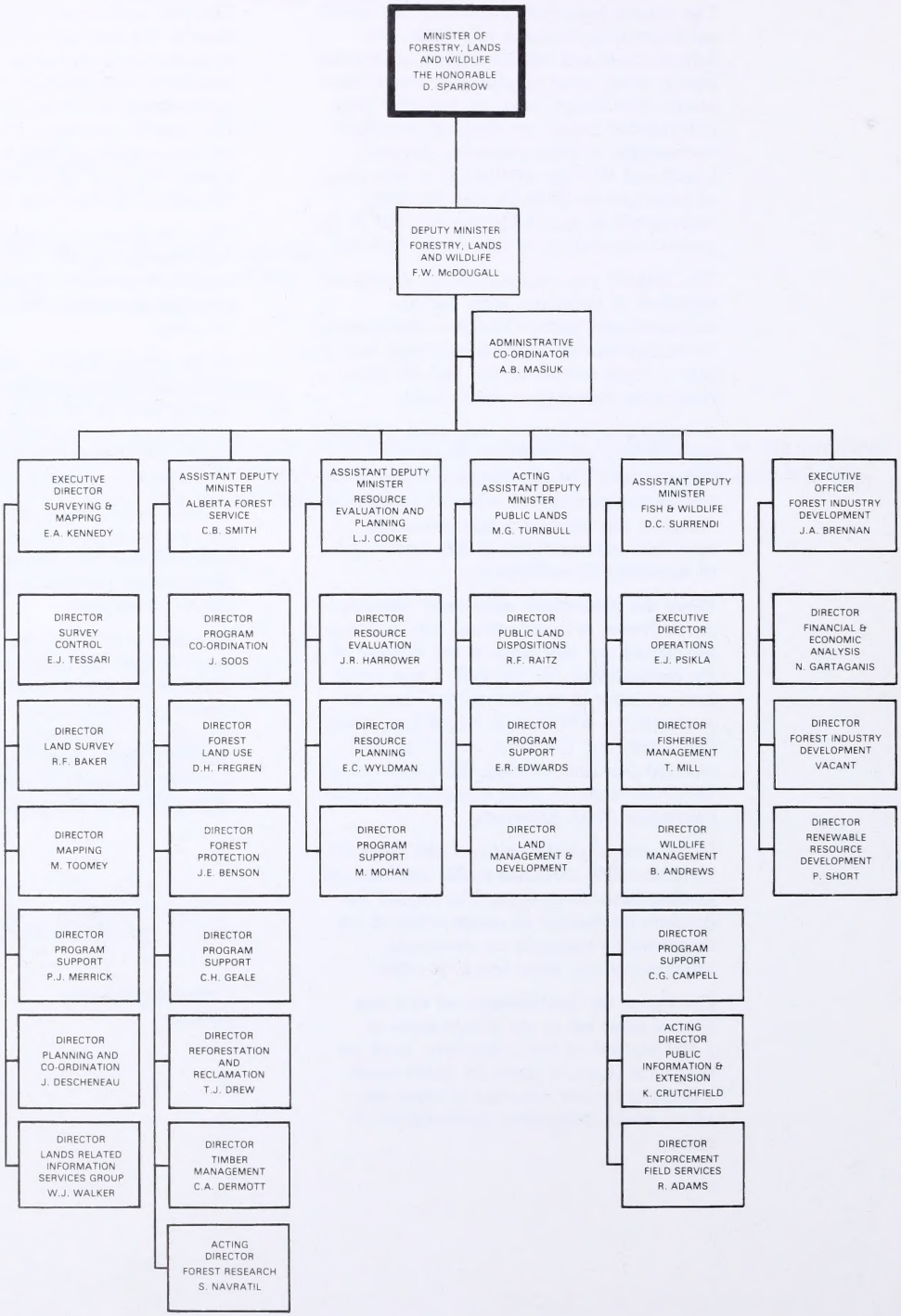
Habitat enhancement projects continued to play an important role in conservation of the resource, with 190 fisheries and habitat development projects completed over the course of the year.

Overall, the activities over the course of the year reflected the momentum of an action-oriented department. Assistance, of course, came from many organizations, clubs and individuals. Their co-operation is necessary and vital, and I thank each and every one for their continued commitment to the wise management of this province's resources.



LeRoy Fjordbotten
Minister

Organization Chart



Alberta Forest Service Division

The objective of the Alberta Forest Service (AFS) is to manage Alberta's forest lands to ensure a perpetual supply of benefits and products while maintaining a high quality forest environment.

Forest lands cover 331 000 square kilometres, or 50 per cent of the province. Of this, 182 000 square kilometres are productive forest land and support 2.3 billion cubic metres of wood. An additional 20 000 square kilometres have the potential to produce forest products. The remaining areas of rock, muskeg and wetland are not considered capable of producing timber.

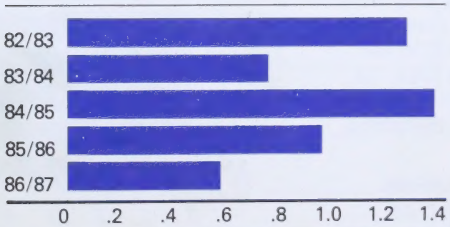
The 1986 fire season started with extremely dry conditions in April due to the lack of a significant winter snowpack. The high hazard situation was effectively eliminated by above normal levels of precipitation in the central and southern areas of the province during late April and May. Above average levels of precipitation in June and July, coupled with a reduction in lightning activity, resulted in fewer fire starts in the province.

There was only one significant fire outbreak period, occurring between late May and early June, which resulted in the suppression of 148 fires over 16 days.

A total of 585 fires burned over an area of 2 692 hectares (6 652 acres) during 1986. These figures were down significantly from 939 fires and 12 919 hectares (31 923 acres) burned in 1985. Four fires escaped initial attack efforts and accounted for 54 per cent of the total area burned. Lightning was responsible for 44 per cent of the province's forest fires in 1986, with recreation related fires accounting for an additional 19 per cent (Figures 1 and 2).

Figure 1 - Fire Incidence

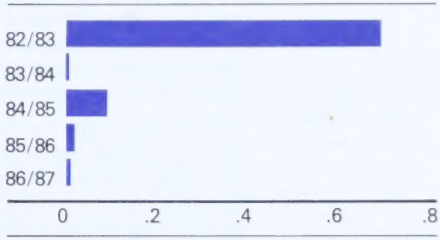
Thousand Fires



Source: Alberta Forest Service

Figure 2 - Area Burned

Million Hectares



Source: Alberta Forest Service

Alberta's two new Canadian CL215 amphibious water bombers, acquired under a joint federal/provincial co-operative supply agreement, were deployed on a total of 25 fires during the 1986 season. The aircraft, which are capable of scooping water directly from rivers or lakes for delivery to forest fires, proved to be very effective in both initial attack and follow-up support action.

The Alberta Forest Service provided assistance to a number of other agencies through the mutual aid agreement co-ordinated by the Canadian Inter-agency Forest Fire Centre. Alberta provided assistance to the following provinces and territories:

- 2-day loan of CL215 to Saskatchewan
- 2-day loan of CL215 to Ontario
- One 7-man fire management team to the Yukon
- Two 7-man Helitack Rappel crews to the Yukon
- One 7-man fire management team to Norman Wells, N.W.T.
- Four 28-man fire crews to the N.W.T.
- Assistance in the suppression of 4 fires in Saskatchewan, 1 in British Columbia, and 4 in the N.W.T., all along provincial boundaries.

The AFS became the only agency to use the Multi-Departmental Radio System (MDMRS) for data transmission. Data obtained from Remote Automatic Weather Stations (RAWS) was telemetered through the MDMRS directly to the Provincial Forest Fire Centre in Edmonton, allowing for the further enhancement of fire weather network data.

The 1986 fire season was the first year where the majority of forests implemented

recommendations contained in the "fixed detection system analysis". Through close monitoring of opening and closing times, as well as fire weather and fire hazard conditions, a significant reduction in total detection costs with no appreciable loss of effectiveness was achieved.

The Alberta Forest Service again contributed to the Jiagedogi model fire management project in the Chinese province of Heilongjiang by providing an on-site resource person to assist in the development of a fire detection system for their province.

The use of prescribed burning as a resource management tool continued to grow as a total of 2 662 hectares (6 578 acres) were burned in six separate projects. This is a significant increase from the 259 hectares (640 acres) burned in 1985. Seven hazard reduction burns were also completed, covering a total of 5 658 hectares (13 981 acres) in 1986.

The AFS also carried out a significant amount of work in the detection and monitoring of insect and disease outbreaks in the province.

The declining population of the mountain pine beetle required minimal control action, although intensive monitoring of the endemic population continued using pheremone baited trap trees. Spruce beetle pheremone research was initiated to enable the AFS to monitor the insect's population. The present population of this beetle is also at an endemic level. The jack pine budworm and the spruce budworm did not expand into the forested area and remained unchanged or declined in rural areas. Monitoring of these insects will continue using pheremone baited traps.

The division's **Range Management Program** allows ranchers to use public lands for livestock grazing. In 1986/87, 201 195 animal unit months (AUMs) of grazing were provided in the Rocky Mountain Forest Reserve, and on 265 651 hectares (656 424 acres) in other parts of the Green Area. To maintain the current level of grazing, various range improvement projects were completed at a cost of $294,384.

The Alberta Forest Service operated and maintained 202 recreation areas and 20 group camps which provide 4 658 camping units and 1 350 day use units. An extensive system of formal and informal trails was maintained for recreation opportunities, providing over 723 kilometres for snowmobile and off-highway vehicle use and 105 kilometres for cross-country skiing and hiking trails.

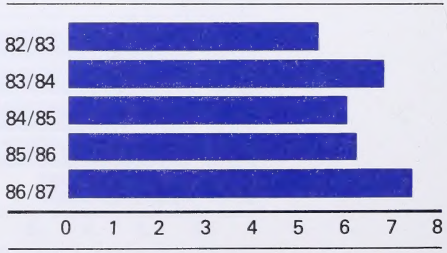
A new forest land use zone was established in the **Bow/Crow Forest** of southwestern Alberta. The Allison/Chinook Forest Land Use Zone was established to resolve conflicts between motorized and non-motorized recreational use by separating these activities. The five forest land use zones that were established in 1985 received permanent status through the removal of an imposed sunset clause.

In April of 1986, the **Bighorn Wildland Recreation Area** was established to accommodate public interest in an outdoor recreation area of a very special nature. The Bighorn is roughly two-thirds the size of Banff National Park, covering 3 966 square kilometres.

The Bighorn Wildland Recreation Area offers more opportunities to the outdoor recreationist than any other comparable recreation area across North America. It is a vast unique area, managed to provide a wide range of wildland recreation activities, including exceptional hunting and sport fishing opportunities.

Timber harvested from provincial Crown lands totalled 8 229 874 cubic metres, an increase of 18 per cent over 1985/86. The harvest is primarily used in the manufacture of pulp, lumber and panel products. Saw logs and peeler logs accounted for 88 per cent, and 10 per cent was in pulpwood.

Figure 3 - Coniferous Timber Harvest
Million Cubic Metres



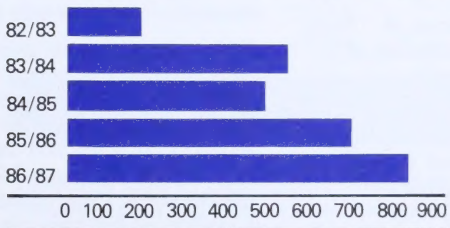
Source: Alberta Forest Service

The coniferous and deciduous timber harvests were 7 429 022 cubic metres and 800 852 cubic metres — 90 per cent and 10 per cent of the total harvest respectively (Figures 3 and 4). The province's forests also provided 30 565 Christmas tress and 14 338 transplants for the public.

A total of 40 631 timber dispositions were issued, a 10 per cent increase over the 36 960 issued in 1985/86. Only 146 of these would be considered major dispositions, the remainder being Local Timber Permits (Figure 5).

Figure 4 - Deciduous Timber Harvest

Thousand Cubic Metres



Source: Alberta Forest Service

Figure 5 - Timber Dispositions Issued: 1986/87

Type	Number Issued
Forest Management Agreement	1
Coniferous timber quota	14
Deciduous timber allocations (DTA)	4
Licences:	
Coniferous quota	48
Deciduous, DTA	7
Commercial Timber Permits:	
Coniferous (green)	57
Coniferous (dead or damaged)	6
Deciduous (green)	7
Deciduous (dead or damaged)	2
Local timber permits	1 651
Forest Product Permits (Tree Tags)	38 834
Total timber dispositions issued	**40 631**

Source: Alberta Forest Service

In 1986, Weldwood of Canada Ltd., was awarded a Forest Management Agreement in the Slave Lake Region. The agreement covers an area of 7 121 square kilometres and contains an annual allowable harvest of 300 000 cubic metres of hardwood. Weldwood, which has operated a waterboard plant in the Mitsue Industrial Park near the Town of Slave Lake, upgraded their plant in 1986 to allow for full scale production of oriented strand board. A permanent work force of approximately 110 people is employed in the mill, with an additional 100 workers employed in wood harvesting and hauling operations.

The report, "**Alberta Phase 3 Forest Inventory — An Overview**" was published in November of 1986. The report describes, in detail, the methods used during the inventory and summarizes important results.

The "**Forest Landscape Management Guidelines for Alberta**" manual, which forms an integral part of the Alberta Timber Harvest Planning and Operating Ground Rules, was developed. Together, they provide the rationale for managing the visual resource together with other resources within the forested areas of Alberta.

Additional forest research was carried out in the areas of reforestation, watershed, site classification and competing vegetation management.

Reforestation research investigated methods for improving the quality of bareroot and containerized nursery stock, and for the most effective storing and overwintering of seedlings. The long-term "Tri-Creeks Watershed Study", monitoring the effects of harvesting on water yield and stream quality in the Edson forest, was completed.

The Canada-Alberta Forest Resources Development Agreement provided core funding for the enhancement of research programs in the areas of site classification, vegetation management and the development of forest stands.

Forest site classification was continued in co-operation with the Resource Evaluation and Planning Division and the Canadian Forestry Service. A field guide to aid in the identification and management of forest ecosystems in west central Alberta was developed and additional work is now taking

place to complete site classification in the Bow/Crow Forest. Vegetation management projects were implemented to test mechanical and environmentally safe, chemical ways of controlling aspen in areas designated for conifer production. The program monitors the development and growth of juvenile managed stands established after harvesting was accelerated.

Additional research involved universities and the consulting industry in studies requiring specialized expertise and facilities. These studies covered a wide range of topics, including the formulation and testing of hare repellants for reduction of browsing damage in plantations, use of pheremones for the control of bark beetles, disease resistance testing for genetically improved trees, conditions affecting the occurrence of Armillaria root rot, micropropagation of trees for tree improvement, and collection of beneficial, mycorrhizal fungi native to Alberta.

The number of clubs, wardens and volunteer leaders involved in the **Junior Forest Warden Program** continued to expand in 1986/87. Alberta has approximately 600 volunteer adult leaders who provide 2 100 youngsters (aged six to 16 years) with a variety of programs. These range from forest management techniques, to activities designed to develop an appreciation for the responsible use of natural resources. The volunteer leaders worked at upgrading their skills, competencies and programs through attendance at approximately 50 AFS sponsored workshops, seminars, and clinics.

The **Junior Forest Ranger Work Experience Program** provided meaningful summer employment in forest conservation to more than 80 young Albertans in seven separate camps. More than 70 per cent of the students in the program have indicated a desire to pursue post-secondary training in a resource field.

The Canada/Alberta mobile exhibit trailer "Alberta's Managed Forests" completed its inaugural year of operation. The travelling exhibit, jointly funded by the federal and provincial governments as a part of the Canada/Alberta Forest Resource Development Agreement, toured the southwestern corner of the province and was viewed by over 28 000 people in its five-month operating season.

The Alberta Forest Service also established a new ranger station and fire base in Fort McKay.

Regeneration surveys were completed on 17 977 hectares (44 421 acres) of cutover land. Of the regeneration area surveyed, 70 per cent met provincial stocking standards. Under the **Juvenile Stand Survey Program**, another 1 194 hectares (2 950 acres) were surveyed on 63 cutblocks. The objective of this program is to describe the composition of our regenerated forest 10 years after harvest. A Free-to-Grow study was initiated on 91 cutblocks of 1 249 hectares (3 086 acres). The objective of this study was to develop and validate new regeneration standards for our recently harvested cutovers.

Silviculture treatments completed by the AFS, included mechanical scarification of 6 502 hectares (16 066 acres), seeding of 1 628 hectares (4 023 acres), thinning of 316 hectares (781 acres) and the planting of 11 014 087 seedlings on 7 774 hectares (19 210 acres). Cone collection totalled 1 090 hectolitres of lodgepole pine and 740 hectolitres of spruce cones. There was a total of 18 operational reclamation projects undertaken and completed.

The **Maintaining Our Forest Afforestation Program** completed its funding through the Alberta Heritage Savings Trust Fund during 1986/87. Activities for the year included 504 hectares (1 245 acres) of scarification and the planting of 4 704 260 seedlings on 3 459 hectares (8 547 acres).

Additional funding for the **Maintaining Our Forests Program** continued under the Canada/Alberta Forest Resource Development Agreement. Activities included 5 192 hectares (12 829 acres) of stocking surveys, 775 hectares (1 915 acres) of mechanical scarification, and the planting of 3 357 348 seedlings on 2 742 hectares (6 775 acres). A total of 959 hectares (2 370 acres) of young plantation were released from competition with chemicals. In the forest, drainage trails were aimed at improving coniferous tree growth on wetlands. Thirty-eight kilometres of lines were laid out, cleared, and drainage ditches were constructed.

Pine Ridge Forest Nursery continued to deliver a high quality production program in support of provincial reforestation efforts. During this year, a total of 24 863 977 seedlings were shipped by the nursery. This brings the total of seedlings shipped by Pine Ridge to date to 171 555 212.

A lodgepole pine seed orchard was planted near Grande Prairie as part of a joint government-industry tree improvement program. Planting stock production was continued for three other seed orchard developments for genetic improvement of white spruce.

A total of 95 superior trees were located and selected by cruising forest stands in northern Alberta. Genetic seed banks were increased by 121 new seedlots, and 222 seedlots were germination tested. Wood specific gravity tests were completed on samples from 101 trees and fibre length tests were done on 33 trees. Experimental planting stock production consisted of 13 632 seedlings, 3 060 grafts, 425 rooted cutting stock, and 6 530 potted rootstock trees.

Forest Industry Development Division

The Forest Industry Development Division of Forestry, Lands and Wildlife was created in 1986 to assist new and existing forest companies and private investors to upgrade and utilize Alberta's vast uncommitted forest resources for a variety of forest products; and to attract investment and private sector involvement in upgrading and developing renewable resources other than the forest industry.

The major objectives of the Division are to:

1. Increase employment opportunities through new developments;
2. Improve the competitiveness of the Alberta forest products industry;
3. Encourage and facilitate forest products research and development in Alberta;
4. Identify equity funding and other forms of financial assistance that could be available to a development proposal;
5. Assist the primary and secondary forest product industry and the renewable resource industry in diversifying Alberta's markets through co-operative efforts with Economic Development and Trade, and other related departments or agencies.

The activities and accomplishments of the Forest Industry Development Division are summarized in the following tables (Figure 6 and 7).

The research activity of the Forest Products Research Group is funded under the B.4 Subprogram of the Canada/Alberta Forest Research Development Agreement.

The mandate of Forest Products Research is:

1. to enhance the better (value and volume) utilization of Alberta's forest resources;
2. to assist the existing forest products industry in achieving its full potential on all economically available markets;
3. to assist new forest industry development in the province; and
4. to keep Alberta in the leading edge of product development and technology suited to Alberta's forest resources.

The following tables list the accomplishments and current activities for this section (Figures 8, 9 and 10).

The Renewable Resources Branch was created to help facilitate potential resource development concerns other than forestry.

Working in conjunction with the provincial, national and international tourism and recreation industries, the Renewable

Resources Branch researches markets and identifies the development potential of Alberta's public lands and resources. This integrated approach ensures all industry interests are considered. The co-ordination role includes liaison with other departments to clarify regulation requirements and expediting approvals.

Figure 6 - Committed Projects

Company	Location	Project Description	Estimated Capital Cost ($MM)	Estimated Jobs Direct	Indirect
Completed					
Primary Products					
Pelican Spruce Mills Ltd.	Drayton Valley	Built OSB plant	55.0	350	525
Weldwood of Canada Ltd.	Slave Lake	Convert waferboard plant to OSB	7.0	—	185 (retained 123 jobs)
Mostowich Lumber Ltd.	Fox Creek	Built sawmill	8.0	40	60
Blue Ridge Lumber Ltd.	Blue Ridge	Built a MDF plant	32.0	60	90
Secondary Products					
Jager Industries Inc.	Calgary	Modernized wooden I-beam facility	1.0	10	20
Underway					
Primary Products					
Sunpine Forest Products Ltd.	Sundre	Purchase sawmill and construct a wood preserving plant	9.5	80	142
Atlas Lumber (Alberta) Ltd.	Sentinel	Purchase, upgrade and operate a sawmill	2.4	75	125
Pelican Spruce Mills Ltd.	Drayton Valley	Build sawmill	30.0	100	160
Millar Western Pulp Ltd.	Whitecourt	Build CTMP pulpmill	194.1	365	730
Procter & Gamble Cellulose Ltd.	Grande Prairie	Modify pulpmill to produce aspen pulp	8.0	—	—
Champion Forest Products (Alberta) Ltd.	Hinton	Double kraft pulpmill capacity	285.0	370	950
British Columbia Forest Products Ltd.	Grande Cache	Modernize sawmill	5.0	—	640 (retained 390 jobs)
Secondary Products					
Integrated Wood Research Inc.	Edmonton	Build remain centre	7.8	74	111
Walls and Forms Inc.	Whitecourt	Build Slatwall plant	1.0	25	N/A
Totals			**645.8**	**1 549**	**3 738**

These projects represent approximately 2 300 man years of construction in addition to the direct and indirect jobs.

Figure 7 - Projects Under Consideration

Type of Project	Estimated Cost ($MM)	Estimated Jobs	
		Direct	Indirect
4 Sawmills	58.1	490	859
2 OSB Plants	140.0	800	1 200
1 Bleached Kraft Pulpmill	500.0 +	700	1 400
4 CTMP Pulpmill/Newsprint Mills (some of which are competing)	1 030.0	1 085	2 170
1 Finger-Jointing Plant	9.0	55	83
1 Reman Facility	3.0	145	215
1 Chopstick Plant	2.1	105	155
Totals	1 742.2	3 380	6 082

Figure 8 - Current Major Projects With Industry

Company	Project Description
Jager Industries Inc.*	The use of maxi-chips from Alberta wood species for the manufacture of oriented strandboard (OSB).
Zeidler Forest Industries Ltd.	Technical feasibility of producing cement and gypsum bonded particleboard panels from Alberta woods and mill residues.
Crestbrook Forest Industries Ltd.	Identification of modernization and/or expansion opportunities available to the plywood plant at Fort McLeod, Alberta.
Alberta Energy Co. Ltd.	Identification of process improvement to enhance competitiveness of medium density fibreboard (MDF) plant at Blue Ridge, Alberta.
	Development of a binderless process for MDF.
Pelican Spruce Mills Ltd.	Development of engineering property values for OSB to increase its market potential in industrial wood construction applications.
	Evaluation of veneer overlaid OSB for furniture applications.
Canadian Forest Products Ltd.*	Densification technology for pulp chips to facilitate longer economic transport to pulp mills.
	Upgrading opportunities available for the plywood plant at Grande Prairie.
HPC Construction Ltd.*	The use of aspen and pine for the manufacture of residential furniture.
Western Archrib Ltd.*	The use of Alberta spruce and pine for the manufacture of laminated beams.
Alberta Pallet Co. Ltd.	Development of special pallets for the automobile industry based on Alberta panel products and low grade hardwood.
Walls and Forms International Ltd.	Market opportunities of Alberta panel products for industrial wall covering application.
Weldwood of Canada Ltd.	The use of black poplar for the remanufacture of OSB.
Jasper Millworks Ltd.	Assessment of the suitability of Alberta birch for the manufacture of furniture.
Forintek Canada Corp./ Zeidler Forest Industries/ Borden Chemicals Ltd.	Development of fast curing adhesives for plywood.
Recom Engineering Ltd./ Pelican Spruce Mills Ltd.*	Development of on-line electronic quality control system for OSB.

* Denotes completed projects.

Figure 9 - Major Strategic and Educational Projects

Company	Project Description
D.G. Bell and Associates Inc.*	Identification of development opportunities in the secondary forest products industry of Alberta.
Sandwell, Swan, Wooster Ltd.*	Assessment of newsprint opportunities in Alberta
Ekono Consultants Ltd.*	Assessment of business opportunities for value added paper manufacturing in Alberta.
Arbokem Inc.*	Review of pulping and papermaking properties of aspen.
Stake Technology Inc.*	The suitability of Alberta woods for the improved steam explosion pulping process.
Alberta Forest Service*	Directory of Primary Wood-Using Industries in Alberta.
Alberta Economic Development*	Directory of secondary wood products industry in Alberta.
Woodlands Resources Ltd.*	Directory of Forestry Consultants in Alberta.
Alberta Forest Service*	Aspen Quality Workshop.
Forest Industries Development*	Pulp, Paper and Chemicals Workshop.
Virginia Polytechnic Institute*	Grading School for Alberta aspen and birch for furniture uses.

* Denotes completed projects.

Figure 10 - Major Projects at the Alberta Research Council

- Use of mixed species for the manufacture of OSB, particularly black poplar.
- Acceptance of Alberta forest products on foreign markets, special reference to the Pacific Rim and Europe.
- Development of improved pressing technology for panel products.
- Evaluation of alternative binders for national products.
- Assistance to building codes and product standards developments which will enhance the opportunities for Alberta forest products.
- Long-term performance of corrugated waferboard in simulated service conditions (waveboard).
- Development of isocynate binders for panel products to improve weathering durability.
- Provided assistance to inquiries on forest products and utilization to Albertans.

The goals and objectives of this section are as follows:

1. **Co-ordination** - to provide assistance to proponents in the preparation, review and implementation of development proposals involving lands and resources.
2. **Research/Policy Development** - to provide the necessary financial and personal support in the research, analysis and policy development of economic development opportunities available through public lands and resources.
3. **Promotion and Marketing** - to improve the understanding and awareness of the development opportunities and expectation of economic diversification for public lands and resources, with the general public and government staff.
4. **Communication** - to ensure appropriate information on program or project development is provided to the participant. In addition, it is essential to prepare the necessary communications strategy to foster acceptance of the initiative.

Following is a summary of projects under review by the Renewable Resources Branch.

Renewable Resources Projects - Co-ordination

There are a total of 32 projects that are in the co-ordination stage. These projects cover a wide array of forest development uses and range from major ski development on the eastern slope to small recreation areas throughout the province. The Renewable

Resources Branch provides a facilitators' role in working directly with the proponent and other government departments to see the project through all the necessary review and approval stages.

Research

At the present time, there is a total of $45 650 being provided for research of three major projects. The focus of the research is the identification of the commercial recreation development for public lands and resources. As well as the three projects that are currently funded, there are two projects which are still in the proposal stage.

Promotion and Marketing

There are three projects underway. The major project is the Pinehurst Lake development promotion which is part of the Lakeland Integrated Resource Plan. The other projects include promotion of the World Hunting Conservation Congress and the 1988 Winter Olympics in Calgary.

Public Lands Division

The Public Lands Division is responsible for the administration of public lands as defined in the Public Lands Act.

A major function of the division is to determine the suitability of public lands for various purposes. Some are leased for grazing, cultivation, recreational, commercial, or industrial uses. Suitable lands may be sold for farms, subdivisions, or plant sites. Grazing reserves are developed on some public lands for livestock grazing. Other lands are reserved for the use of other departments and agencies.

The total area of Alberta is 661 185 square kilometres (255 217 square miles) or some 66 million hectares (163 million acres). About 62 per cent is under provincial control and more than 60 per cent of all lands, largely the forested regions, are not settled. The status of lands in Alberta is outlined in Figure 11.

A significant portion of Crown land in Alberta has been designated with a protected status for conservation, recreation, ecological, and other purposes as shown in Figure 12.

Of the public lands under disposition under Public Lands Division management (4.6 per cent of the province), 0.29 million hectares (0.71 million acres) are under disposition leading to title. About 2.80 million hectares (6.91 million acres) are under disposition not leading to title (lease, permit or licence) and include 2.26 million hectares (5.6 million acres) of grazing leases and permits. Statistics indicating the number of applications received, the number of dispositions issued, and the number of all public lands dispositions are presented in Figure 13.

A major responsibility of the division is to respond to applications for public land dispositions.

In 1986/87, the number of applications relating to **Oil and Gas Development** decreased by 45 per cent from the previous year. Mineral surface lease applications showed the greatest drop (down by 53 per cent). In addition, 1 375 mineral surface lease applications were processed. Licences of occupation and pipeline agreements were down by 36 per cent and 34 per cent respectively. Oil sands exploration applications and coal exploration applications continued to decline with seven applications being received.

While there was a slowdown in application activity, there was a significant increase in the number of backlogged applications

(5 835) which were finalized into lease and licence agreements. As a result, the number of leases and licences in effect relating to oil and gas activity increased by about 4 200 or 11 per cent to a total of 42 922 as of March 31, 1987.

Non-Industrial Activities increased in 1986/87. Miscellaneous lease applications were up by 29 per cent to 268, and the number in effect was up by 22 per cent to 818.

Interest in wild rice growing continues. The fall of 1986 saw Alberta's first commercial wild rice harvest of approximately 6 804 kilograms (15 000 pounds). All wild rice produced remained in the province and was used mainly to increase the size of existing plots, and for test planting of new lakes. There are now 470 lakes in production, an increase of 40 per cent over last year.

The total number of grazing applications decreased slightly in 1986/87. Approximately 2.3 million hectares (5.6 million acres) continue to be held under grazing dispositions.

In June of 1986, a hold was placed on the approval of **Grazing Lease Conversion** applications in the Central and Southern regions of the province. In December of 1986, a task force consisting of seven members (5 M.L.A.'s and 2 farmer members) was appointed to obtain public

Figure 11 - Status of Lands in Alberta
March 31, 1987

	Area		
	Square Kilometres	Square Miles	Percentage of Alberta
Privately Owned Land	184 620	71 282	27.9
Public Lands			
• Under Disposition Leading to Title	2 937	1 134	0.4
• Under Disposition Not Leading to Title[1]	28 026	10 821	4.2
• Special Areas[1]	12 144	4 689	1.8
Provincial Parks, Wilderness Areas	2 328	899	0.4
Willmore Park, Natural Areas	4 786	1 848	0.7
Metis Settlements	5 053	1 951	0.8
Indian Reserves	6 566	2 535	1.0
Non-Settled Public Lands			
• Forested Lands Within the Green Area[2]	277 152	107 009	41.9
• Forest Management Agreement Areas and Provisional Reserve	57 140	22 062	8.7
Vacant Public Land (within White Area)[3]	17 302	6 680	2.6
Federally Controlled Lands (National Parks, Research Stations, Department of National Defense, Etc.)	63 131	24 375	9.6
Total Area of Alberta	**661 185**	**255 285**	**100.0**
Land	644 389	248 800	97.5
Water	16 796	6 485	2.5

Source: Public Lands Division

[1] Includes some tax recovery lands.

[2] Green Area: Forested lands withdrawn from settlement, managed for forestry and other multiple uses.

[3] White Area: The settled area of the province including the settled area of the Peace River Region. Public lands in this area are managed for multiple use, including agricultural uses, pursuant to the Public Lands Act and Regulations.

input and comments on grazing lease conversion. The task force held public meetings in major centres of the province in January and February of 1987.

On March 2, 1987, a hold on further approvals of applications for grazing lease conversions was extended to the entire province.

During the 1986/87 fiscal year, 187 grazing lease conversion applications were received bringing the total to 904 applications since the commencement of the program in August of 1985. The applications cover an area of approximately 132 742 hectares (328 005 acres). Of these applications, 602

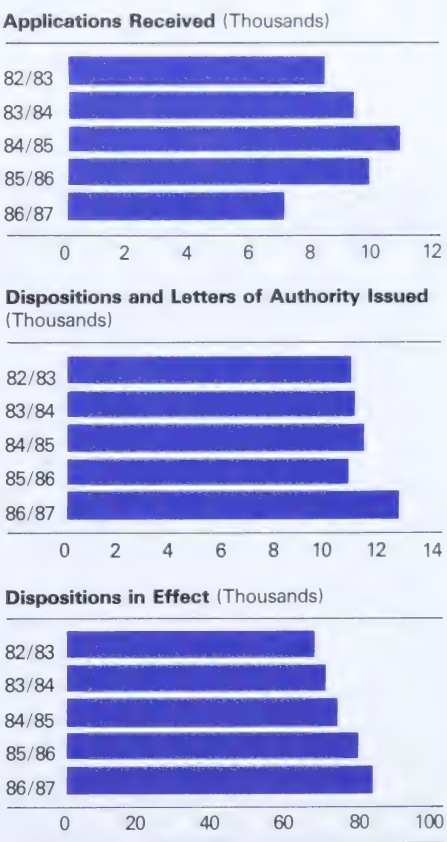
Figure 12 - Crown Lands With Protected Status in Alberta

	Area (km^2)	% of Alberta
Under Legislation		
National Parks	54 084	
Provincial Parks	1 254	
Natural Areas	190	
Forest Land Use Zones	5 646	
Provincial Recreation Areas	44	
Willmore Wilderness Park	4 597	
Wilderness Areas	1 010	
Bird and Wildlife Sanctuaries	694	
Forest Recreation Areas	1 214	
Total	**68 733**	**10.4**
Under Protective Reservations		
Ecological Reserves	597	
Natural Areas	765	
Recreation Areas and Proposed Provincial Parks	1 152	
Total	**2 514**	**0.4**
	71 247	**10.8**
Under Protective Zoning		
Eastern Slopes		
Prime Protection Zoning	12 708	
Critical Wildlife Zoning	5 904	
Within Integrated Resource Plans outside the Eastern Slopes	3 836	
Total	**22 484**	**3.4**

A total of 10.8 per cent of Alberta is protected, with 10.4 per cent of the province protected under legislation and 0.4 per cent under protective reservation. In addition, a significant portion of the 3.4 per cent of the province which is under protective zoning does not overlap with other protective designations and could be added to the total.

Source: Resource Evaluation and Planning Division.

Figure 13 - Activity on Public Lands



Source: Public Lands Division

were for farm development sale, 260 for farm development lease with option to purchase, and 42 for farm development lease without option to purchase. Prior to the hold on application approval in March, 1987, 29 applications had been approved, 21 partially approved, and 130 denied. Acreage approved for conversion totalled 3 932 hectares (9 716 acres). Acreage denied for conversion totalled 15 803 hectares (39 049 acres).

The total acreage under **Farm Development** remained about the same. The number of cultivation permit applications increased slightly, but the acreage under cultivation permits decreased.

The number and acreage of homestead sale dispositions continued to decrease as a result of the elimination of homestead sale provisions in the Public Lands Act in 1984.

Public Lands is also involved in the administration of several ongoing programs. The **Range Improvement Program** provides assistance on a cost-shared basis to farmers holding grazing dispositions in the White and Green areas of the province. The purpose of the program is to assist livestock producers in maintaining and increasing the carrying capacity of grazing leases, permits and licences. Improvements are developed on a planned basis which recognizes the sustained yield of the native and tame forage resource. Each plan incorporates the importance of other multiple uses such as wildlife, forestry and recreation. Projects undertaken on grazing leases include clearing, forage establishment, crossfencing, dugouts, trail development, and brush control management.

In the 1986/87 fiscal year, the Range Improvement Program funded 950 ongoing projects and approved 24 applications for funding. The amount expended on these projects was $2.3 million. As of March 31, 1987, 428 Range Improvement Agreements (plans) have been completed since the beginning of the program. These completed projects have provided increased forage or are used to offset declines in carrying capacities from brush encroachment.

The **Grazing Reserve Program** provides summer pasture for the livestock of small-scale farmers and ranchers whose privately owned lands are freed for crop and hay production. The program is intended to help diversify and stabilize the agricultural industry. There are 32 grazing reserves covering 0.29 million hectares (0.7 million acres) in settled areas of the province. In 1986, 32 operational reserves accommodated 271 562 animal unit months of livestock grazing, equivalent to 73 254 mature head of livestock. A total of 1 658 patrons benefitted from the program. Active development of grazing reserves continued during 1986/87 and included burning, breaking, seeding, aerial spraying, fertilizing, fencing, and water development. These developmental activities involved contracts totalling $5.29 million, $4.22 million of which was funded by the Alberta Heritage Savings Trust Fund.

In 1987, as part of the division's involvement in Wildlife '87, the **Natural Areas Program** began a major effort to expand through public involvement and establishment of new sites. Two new natural areas were established under the Wilderness Areas, Ecological Reserves and Natural Areas Act. The Wagner Natural Area is a 130 hectare (321 acres) site, 6.5 kilometres west of Edmonton. The 1 350 hectare (3 336 acres) Pine Sands Natural Area is along the Athabasca River, approximately 60 kilometres northeast of the Town of Athabasca.

In 1986/87, through funding from the Heritage Savings Trust Fund, seven contracts, for a total of $31 132.68, were awarded to reclaim gravel pits, stabilize a moving sand dune area near Grande Prairie, and to remove debris and garbage from public lands. Seventeen other projects for a total of $43 349.19 involved abandoned buildings and debris clean-up, and erosion control which were completed with financing from the divisional budget.

A new responsibility was added to the **Land Management and Development Branch** in 1986/87. The branch is now responsible for the inspection of geophysical operations on private land and road allowances, and the investigation of damages arising from these operations.

In 1986/87, contracts were issued to a private consulting firm to conduct a detailed land inventory of 41 077 hectares (101 501 acres) as part of the department's agricultural capability inventory. Staff of the division conducted an arable land inventory for an

additional 18 144 hectares (44 834 acres) in the Central Region.

The **Subdivision Development Program** handles requests for commercial, residential, recreational, and recreational cottage use on Crown land. The department is currently developing a policy for recreational cottage development which will be implemented by the Subdivision Development Program. This will entail selection, evaluation, planning and disposition of recreational cottage sites throughout the province on Crown land deemed appropriate for such use.

Legal surveys were completed on 97 sections of public lands in the Peace River Region for agricultural expansion. A subdivision survey near Cleardale created four lots for highway commercial development.

Fish and Wildlife Division

The Fish and Wildlife Division manages the province's fish and wildlife resources to provide maximum benefit to the public and ensure viable populations are maintained for future generations of Albertans.

The new **Wildlife Act and Regulations** were proclaimed February, 1987, and brought into force. This important legislation provides meaningful laws to meet the needs of all Albertans and offers renewed protection to the fish and wildlife resources.

Significant pieces of legislation include:

a) a mandatory first time hunter test;
b) increased penalties for violators;
c) a clearer definition of wildlife;
d) more easily understood and liberalized laws on possession and disposal of legally taken wildlife;
e) expanded controls over the transportation and discharge of firearms;
f) improved captive wildlife regulations.

During 1987 the year was honored as **"Wildlife '87"** to commemorate the establishment of the first wildlife sanctuary at Last Mountain Lake in Saskatchewan in 1887. Throughout Canada, and particularly in Alberta, numerous wildlife projects and activities were initiated in the name of Wildlife '87. Most of these initiatives have enduring value both today and into the future.

Other noteworthy events included the completion of the Cold Lake Fish Hatchery. This facility will produce upwards of 20 million fish, emphasizing the valuable walleye. New sport fishing regulations have been favorably received with the majority of fishermen appreciating the added opportunities, while at the same time allowing fish stocks to maintain themselves.

Major wildlife initiatives included the signing of the **North American Waterfowl Management Plan**. Studies were intensified to protect dwindling mountain caribou herds. Close support has been received by the forest industry to protect valuable habitat critical to caribou survival. Numerous species management plans are nearing completion.

The Public Information and Extension Branch provided information materials to 2 800 written inquiries and over 12 000 telephone calls, and placed advertisements for management policies and programs to enhance public awareness. The Branch continued specialization on conservation and hunter education activities.

In 1986, the Branch provided leadership in the distribution of over 10 000 copies of the new Wildlife Act and draft regulations, including discussion papers on Game Ranching and Outfitting-Guiding. In addition, a series of brochures are being developed for this new act and regulations.

Branch staff continued their commitments with regulations summaries, numerous public presentations, display development, and response to telephone and written public inquiries. Community service programs were expanded in close liaison with the Alberta Fish and Game Association, school groups, Alberta Forest Service, 4-H clubs, Alberta Forestry Association, and Alberta Agriculture.

The **Conservation Hunter Education** and **Project Wild** programs were expanded in the school curriculum. A total of 12 500 students participated in these courses while the involvement in Project Wild tripled. Efforts continued to expand these programs through increased private sector involvement.

The Branch co-ordinated numerous activities for **Wildlife '87**, a program to create public awareness of past wildlife projects and link them to ongoing initiatives.

The **Use Respect Campaign**, a community service program to inform people about the problems of trespassing by recreationists on private land, expanded with the help of 240 Alberta 4-H clubs. Upwards of 15 000 landholders participated in the 1986 program in which over 92 per cent agreed to permit access if the public would first ask for permission.

Branch development continued on the **Fishing Education Program** which will commence in 1988. This program is an addition to the conservation-hunter activities offered by volunteers and is available in the school curriculum.

The Fifth Annual **Bighorn Awards** banquet recognized individuals, associations and corporations who made significant contributions to fish and wildlife resource conservation in Alberta. In 1986, the recipients were Ted Blowers, Lawrence Halmrast, Irvin and Irene Arndt, B.C. Forest Products, Calgary Zoological Society, and the Hirsche family.

Fish and Wildlife Officers provided a high level of public service during 1986/87, responding to the highest number of occurrences and processing of illegal activities in the Division's history. It would appear that the **Outdoor Observer Program** has been responsible for creating an increased public awareness in illegal activities. Prosecutions have increased 18.4 per cent, 6 252 in 1986/87 from 5 282 in 1985/86.

There was also a significant increase (24.9 per cent) in the total number of occurrences, 28 979 in 1986/87 from 23 203 in 1985/86. The three categories receiving the most complaints are:

	1986/87	1985/86
Property Damage	10 071	8 866
Found Wildlife	9 480	8 367
Enforcement	7 293	5 451

(See Figure 14.)

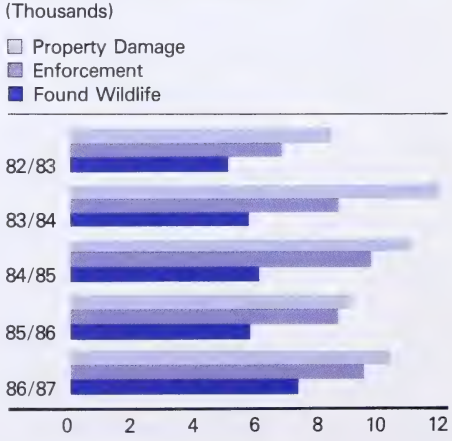
The demand for public service increased considerably and the increased effectiveness can be attributed to the Enforcement Field Services Program Advisory-Regional Work Plan Concept which is working well.

The Fisheries Branch in 1986/87 was involved in lake and stream assessments, sport fish harvest surveys, and monitoring of commercial fisheries.

Commercial fishermen in 1986 numbered 2 334 and caught 2 298 164 kilograms (5 066 532 pounds) of fish, yielding a return with a market value of $5 194 815. Continued progress was made toward the implementation of the new commercial fishery licencing system slated for 1987 (Figure 15).

Approximately 14.7 million fish were reared and stocked in 339 waterbodies during 1986. This is to provide angling opportunities in areas with limited natural fisheries and ensure species variety (Figure 16 and 17).

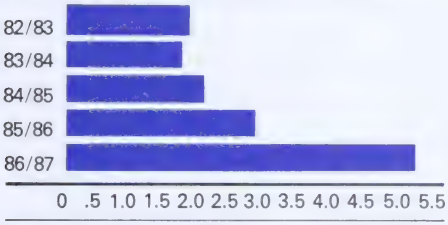
Figure 14 - Occurrences



Source: Fish and Wildlife Division

Figure 15 - Commercial Fish Production

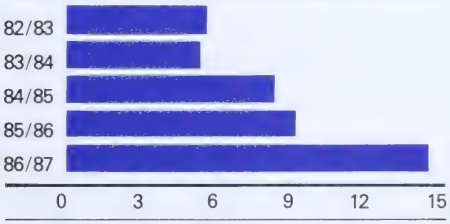
(Million $)



Source: Fish and Wildlife Division

Figure 16 - Number of Fish Stocked

(Millions)



Source: Fish and Wildlife Division

A total of 40 million **walleye** eggs were collected in 1986 to produce 11.8 million fry. One and one-half million fry were returned to the lakes where the eggs were taken. Wabamun Lake received 6.5 million fry. The remaining 3.8 million fry were put into rearing ponds and produced 915 450 fingerlings which were stocked into eight lakes.

There were 5.6 million **trout** stocked into 315 waterbodies in 1986. The species stocked were rainbow trout, eastern brook trout, brown trout, lake trout, cutthroat trout, and arctic grayling.

A total of 124 400 small **yellow perch** were transferred from lakes where there are large numbers into 13 lakes to start new populations and expand fishing opportunities.

The **Cold Lake Fish Hatchery** phased into production in 1986, although the official opening was scheduled for 1987. Walleye fingerlings were successfully raised in the 10

Figure 17 - Species of Fish Stock in 1986/87

Species	Number
Arctic Grayling	78 170
Brown Trout	433 890
Cutthroat Trout	115 090
Eastern Brook Trout	807 940
Rainbow Trout	3 912 290
Lake Trout	280 020
Yellow Perch	124 400
Walleye	8 915 300
Total	**14 667 100**

rearing ponds, and lake trout were incubated and reared for the first time. A contract to operate the Sundance Trout Rearing Station near Wabamun Lake, was awarded to a private operator to rear 150 000 yearling rainbow trout.

The main focus of the Wildlife Branch in 1986/87 was in the areas of international waterfowl planning, species management planning for elk, moose, antelope and mule deer, continuation of the telephone hunter questionnaire, and the gathering of data which will assist in the management of threatened species.

In addition, the Wildlife Branch became involved in the development of the Alberta Bird Atlas and in Wildlife '87. Other areas of major input were game farming, outfitting and guiding, and the finalizing of the wildlife regulations to accompany the new Wildlife Act.

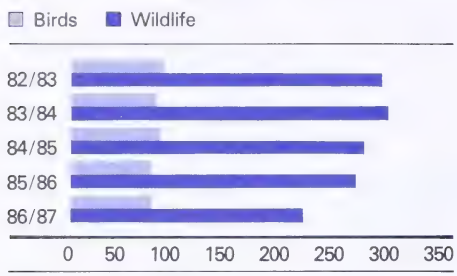
Big game and bird game licence sales for the 1986/87 year were 275 302 and 86 788, respectively (Figure 18).

Studies continued on the effect increased recreational activities may have on the bighorn sheep utilizing Mount Allan, site of th 1988 Winter Olympics.

Nineteen bighorn (five rams, 14 ewes) were radio collared to determine seasonal distribution and key habitat use areas, such as lambing grounds, rutting areas, and winter use patterns in relation to the new ski area. In addition, data is being collected on productivity, survival and parasite loads. Sheep responses to ski area activities and a

Figure 18 - Big Game and Bird Game Licence Sales

(Thousand Licences)



Source: Fish and Wildlife Division

world cup race were recorded to help formulate mitigative measures to lessen the impact of the upcoming Olympics.

Another year of reduced spring run-off and low numbers of May ponds, resulted in record low populations of mallards and several other species. The southern May breeding indices for mallards and for total ducks, were down by 50 percent and 54 per cent, respectively, from the 1970-79 average.

Alberta joined the two other prairie provinces and the four U.S. flyways to implement hunting restrictions designed to reduce the mallard harvest by 25 per cent. The 1986 fall flight was well below the flights of 1970-79 and similar to the drought years of 1980-85, resulting in a continued downward trend in hunting opportunity and harvest.

The **North American Waterfowl Management Plan** was formally endorsed by both American and Canadian federal governments with the official signing in May, 1986.

The **Brooks Wildlife Centre** hatched 119 915 pheasant chicks, which represent an 8.5 per cent decrease from 1985. Totals of:

- 17 600 day old birds were distributed to raisers (i.e., 9 450 to private raisers, 6 750 to 4-H members, and 1 400 to Fish and Game clubs);
- 13 434 six-week old birds were distributed to Fish and Game clubs;
- 66 149 were released to the wild as mature birds;
- 8 182 birds were retained to provide breeding stock for 1987.

The Brooks Wildlife Centre received 4 271 visitors in 1986. Of the visitors, 69 per cent were Albertans, 19 per cent other Canadians, seven per cent Americans, and the remaining five per cent were from other countries.

Except for pheasants, upland game bird numbers were generally up from 1985 with hunting opportunities similar to other years. The continued loss of native habitat associated with irrigation upgrading, coupled with the winter of 1985/86, reduced the numbers of spring breeding pheasants.

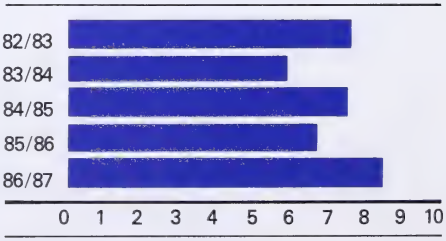
Major activities of the Carnivore, Elk and Problem Wildlife Management Unit during the year included the preparation of a provincial Elk Management Plan, a Predator Management Proposal for west-central Alberta, termination and summary of the Nordegg Wolf Project, a review of management of grizzly bears in southern Alberta, and response to wolf and grizzly management issues.

A considerable increase in the number of some of the major wild furs produced resulted in a 33 per cent increase in the fur value to trappers. Beaver, coyote, marten, muskrat, and squirrel production rose substantially with fur prices rising for all of these species, except squirrel. This has now been the second year of increased fur production (Figure 19).

Trends in fur prices indicate that firm prices will continue for the major species mentioned above. Water conditions continue to be favorable for the aquatic species. Marten (sable), fisher and lynx pelts continue to

Figure 19 - Wild Fur Production

(Million $)



Source: Fish and Wildlife Division

provide very high returns. The anticipated increase in lynx production from last year was much smaller than was hoped. This has created a situation that may require the implementation of special management measures.

One advanced course at Lac La Biche and three national courses for trappers from across Canada were conducted at the Hinton Forestry School. Approximately 45 persons completed these courses which are a prerequisite for becoming a trapper instructor in many parts of Canada.

In addition, three joint trapping programs with Northland School Division were held specifically for those students having academic learning disabilities. The success was most gratifying and this number is expected to increase to 10 such programs in the coming year.

A workshop stressing methods of wolf trapping was held in the Rocky Mountain House area.

The **Provincial Trap Testing Program** conducted during the past two years has been completed. The future of the program is dependent upon the results obtained from the study and the further demand to test holding traps or snares. Our ongoing commitment with the Vegreville humane trap testing program will continue as agreed upon.

The **Nongame Program** has focused primarily on Wildlife '87 activities and the management of threatened and endangered species. Noteworthy projects include **Wildlife '87**, a national program developed to honor the 100th anniversary of wildlife conservation in Canada. An Alberta Wildlife Conservation Centennial Committee made up of 15 different agencies and organizations was established to co-ordinate activities in Alberta. Mr. Rainer Ebel was appointed Executive Director and is responsible for promoting the program. The Honorable Don Sparrow is the first wildlife minister to publicly support Wildlife '87. In July, 1986, Mr. Sparrow provided a $20 000 grant to the Alberta Wildlife Conservation Centennial Association to promote Wildlife '87. The Nongame Management Unit has been actively involved in developing a number of activities as part of Wildlife '87.

An Alberta Bird Atlas has been proposed by the Federation of Alberta Naturalists (FAN) as an initial step toward the development of a province-wide system for the mapping of natural history information. The purpose of the atlas is to identify the distribution and relative abundance of the birds of Alberta, with primary focus on breeding birds. The atlas project is co-operatively supported and funded by our department, the Canadian Wildlife Service, the Provincial Museum of Alberta, and Recreation, Parks and Wildlife Foundation.

A program to re-evaluate 98 avian species tentatively identified as scarce was initiated. Species will be evaluated with respect to their essential vegetation and/or aquatic breeding requirements, and a theoretical breeding range based on this information will be projected. Fifty-two species were examined in 1986 and our tentative findings were forwarded to knowledgeable experts across Alberta for their comments. Each species will be reviewed on the basis of these comments to generate a more comprehensive and accurate list of scarce bird species in the province. The revised list will greatly assist in determining species management priorities.

A draft **Woodland Caribou Provincial Restoration Plan** was completed and distributed for public review. The plan recommends strategies to recover the declining caribou populations, including public awareness, habitat management, and enforcement activities as well as an enhanced population inventory program.

The Fish and Wildlife Division continues to work with the Canadian Wildlife Service and the University of Calgary in an effort to re-introduce swift fox to southern Alberta. Fifty-nine (eight released in 1986) foxes have been released since 1983. Seventeen foxes were initially radio-collared and released in the fall of 1983. As of January, 1986, two of these foxes are still alive. Three pairs released in 1983 produced 12 offspring in the spring of 1984. Breeding of released foxes did not occur in 1985. Of 14 known cases of mortality, 10 are suspected coyote or bobcat kills.

A province-wide survey of all historical peregrine falcon nest locations was conducted in May, 1986. Fifty-nine historical eyries were surveyed; none of them were active.

Monitoring of the remnant peregrine population in northeastern Alberta continued in 1986. Eight young captive-raised peregrines from the Canadian Wildlife Service (CWS) facility at Wainwright were fostered to three of the pairs. Total production (including fostered birds) was three young.

An inventory of nesting locations of burrowing owls was initiated in 1986. The three-year survey is funded by World Wildlife Fund (Canada), Alberta Recreation, Parks and Wildlife Foundation, Coaldale Insurance Company, Robinson's Camera Centre (Lethbridge), and Alberta Fish and Wildlife Division. The project is being co-ordinated by Mr. Colin Weir (a public volunteer) from Coaldale. The project relies on public response to a media campaign (posters, newspapers, radio and T.V.) requesting that individuals report sightings of burrowing owls to Mr. Weir or District Fish and Wildlife offices. Approximately 200 different nest locations were reported in 1986. Mr. Weir and Mr. Dan Wood of Castor banded 345 owls at 101 nests.

Dr. J. Schmutz of the University of Saskatchewan, continued population studies on prairie buteos south of Hanna. Three hundred and nine nesting and adult ferruginous hawks were colour-marked, as were 256 Swainson's hawks. A province-wide survey will be conducted in 1987 to determine current population levels and population trends since the last provincial survey in 1982.

Six individuals or institutions have entered into agreements with the Fish and Wildlife Division to provide volunteer rehabilitative care for sick, injured or orphaned raptors. These individuals received approximately 200 birds of 16 species in 1985, of which 88 were released. Forty-four were undergoing treatment or care at the end of the year, while the remainder died or were euthanized.

Wild West is an endangered species and habitat program initiated by World Wildlife Fund (Canada) in the Canadian prairies. The program is designed to initiate and co-operatively sponsor projects which contribute to the well-being of endangered species. Over a three-year period, Wild West will be spending $600 000. The program is directed by a steering committee comprised of representatives from provincial and federal wildlife agencies, non-profit organizations, and private landowners. In Alberta, projects for species such as burrowing owls, ferruginous hawks, and swift foxes are currently active.

A telephone survey of resident Big Game and Bird Game hunters was conducted at the close of the 1986 hunting season. The survey was organized by the Alberta Fish and Wildlife Division, with most of the telephone calls being made by members of 136 co-operating sportsmen clubs across the province. Approximately 50 000 questionnaires were completed. The information collected pertained to the number of hunters, animals harvested, hunter success, and hunter effort which are essential for management of game species. This survey will continue annually.

Development of detailed management plans continues for elk, bighorn sheep, moose, caribou, mule deer, antelope, white-tailed deer, wolf, grizzly bear, sharp-tailed grouse, waterfowl, and pheasants.

During the 1986/87 fiscal year, the Habitat Branch completed over 190 fisheries and wildlife habitat enhancement projects throughout the province. Many were co-operative projects undertaken with volunteer and private organizations, such as the Alberta Fish and Game Association, Trout Unlimited, Ducks Unlimited, community clubs, the oil and gas industry, and other government agencies. Over 1 400 hectares (3 459 acres) of new fisheries habitat and 14 000 hectares (34 594 acres) of wildlife habitat were protected and enhanced through the **Buck For Wildlife** program.

As part of the **Wetlands For Tomorrow** initiative, work was carried out on three major projects. The Kleskun Lake project, in the Grande Prairie area, is nearing completion and will greatly enhance waterfowl production. As well, land acquisition has been initiated on the Whitford-Rush Lakes project in the Andrew-Willingdon area, and the Big Hay-Bittern Lakes project near Camrose.

Other major initiatives included the establishment of a co-operative ventures agreement with the Eastern Irrigation District. This agreement will serve to maintain and protect vital wetland habitats in

conjunction with irrigation canal rehabilitation efforts near Brooks.

The branch developed an implementation strategy called **Alberta Landowners Habitat Program** to maintain and enhance wildlife habitat on private land. This program will be conducted on a three-year trial basis in the Counties of Minburn and Red Deer, and along portions of the Bow River, and in Eastern Irrigation Districts.

Habitat protection efforts continued to focus on land-use planning activities undertaken with other government departments and the public. Common standards and guidelines for habitat protection were developed along with referrals on various industrial operations.

The Fish and Wildlife Program Support Branch is responsible for policy/program co-ordination and evaluation of administrative and financial guidelines within the Division. The Branch is responsible for the administration of the Division's licencing program, including all recreational, commercial, and domestic licencing. In 1987/88, a new licencing system will be developed in accordance with the new Wildlife Act and Regulations. This requires the development or revision of 45 different licences and forms. In addition, a new Guide to Sport Fishing Regulations was developed to reflect the new format of the new Fisheries Regulations and the concept of Fish Management Areas. Licence sales for the 1986/87 period remained strong with 364 459 being sold (Figure 20).

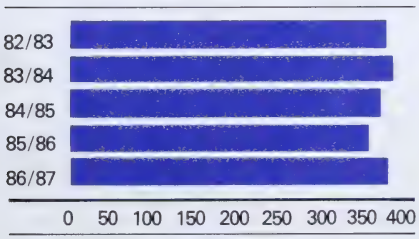
Recreational licence fees were increased 10 per cent and a major review of the Licence Vendor Appointment Policy was undertaken. Introduction of a priority rating system in the Special Licence and Authorization Draws, as well as the introduction of a new computer printed licence and tag also took place.

The Resource Economics and Assessment Section continued to provide technical and information support internally for agencies, organizations and individuals. In 1986, the Section initiated a formal socio-economic report series. The first report in the series was entitled "The Characteristics of Alberta Hunter 1974-84." During 1987, a second report in the series was released entitled "Estimates of Illegal Harvest by Deet in Alberta: A Violation Simulation Study." This research was performed in conjunction with the Field Service-Enforcement Branch over a one-year period, and constituted the first formal attempt by the Division to estimate illegal harvest using the violation simulation technique.

The Section also performed economic assessments in various areas, including pheasant raise and release operations, crop damage compensation, integrated land use planning and habitat development leasing arrangements. A study on the effective deployment of field manpower in district offices was also underway during the year. The Section maintained Alberta's representation on the Federal-Provincial Joint Committee studying the value of wildlife to Canadians. In 1987, an update of the 1981 study will be implemented with results anticipated to be forthcoming in 1988.

Figure 20 - Fishing and Angling Licence Sales

(Thousand Licences)



Source: Fish and Wildlife Division

Resource Evaluation and Planning Division

The Resource Evaluation and Planning Division (REAP) provides an integrated resource policy and planning service to the government. It is also responsible for aerial photography, resource mapping, and resource information services.

One of the Division's major responsibilities is to co-ordinate the preparation of integrated resource plans. Under the government's integrated resource management approach, planning the use of the province's public lands and resources is carried out in a comprehensive, co-ordinated way.

During the report period, the Bear River-Wapiti local integrated resource plan was endorsed by the Minister of Forestry, Lands and Wildlife, and the Rocky-North Saskatchewan and Brazeau-Pembina sub-regional integrated resource plans were approved by Cabinet for implementation. This brings the number of completed plans to 10, covering an area totalling 36 650 square kilometres (14 147 square miles).

During this time, preparation continued for 11 other plans. These included: Poll Haven-local plan, Keg River, Ghost River, Livingstone-Porcupine Hills, Coal Branch, Sturgeon Lake-Puskwaskau East, and Cold Lake sub-regional plans, as well as, the Northeast, Peace River, Central, and Southern regional plans.

A number of local and sub-regional plans were initiated throughout the reporting period. They include: Smoky-Peace Point, Grande Prairie County West and Eden Valley local plans, East Peace, Fox Creek-Knight, Berland and Fort McMurray-Athabasca sub-regional plans.

Public involvement is an important component of integrated resource plans. The **Public Involvement Program** provides the opportunity for public input and comment on plans throughout the planning process. In addition to providing information, on-going contact with the public and the involvement of the Alberta Integrated Planning Advisory Committee, 13 major public involvement events were held for integrated resource plans. Strategies to inform and involve the public in a meaningful way are developed and followed for each planning effort.

The division also provided review and referral services and co-ordinated departmental comments on a wide range of issues, including preliminary disclosures, referrals and land-use plans from other agencies.

Resource inventory and appraisal is a major function of the division. Projects during 1986/87 included vegetation, hydrography, wildlife and soils classifications as well as terrain sensitivity and corridor assessments. Detailed forest inventory data was gathered for approximately 1 200 square kilometres (463 square miles) at a scale of 1:15 000. Detailed ecological interpretations were completed for Yellowhead North, Fox Creek-Knight, East Peace and High Level areas, and the results presented in reports. In addition, very detailed land classifications were carried out in Southern Range Allotment areas, Peace Valley Corridor, and Haig Lake Recreation area.

Evaluation of land classification data for resource development was also undertaken for a number of areas in which detailed inventory was completed. In this process methodologies are developed and tested in order to assist resource management decisions. A highlight of this period was the completion and acceptance of the methodology for Agricultural Ratings for land development within the province.

The **Climate Program** operated and/or directed five networks during the year. Data analysis was completed for two networks and the Climate Data Management System was documented. Numerous requests for data were also processed.

Enhanced reconnaissance aggregate inventories were completed at a scale of 1:250 000 for the Hay River-Zama Lake, Lesser Slave Lake, Rocky Mountain House, Calling Lake and Peerless Lake areas. More detailed inventory at a 1:50 000 scale was completed for the Poplar Creek area north of Fort McMurray. Information products for each area consist of resource maps and explanatory reports. This material is available for government and private sector use.

Reports on the coals of the Ardley Coal Zone, Horseshoe Canyon Formation and the Belly River Group were completed. Evaluation and analysis of collected data related to the coal resources continues with emphasis on data management and coal quality studies.

A series of mineral commodity reports was completed for a number of non-hydrocarbon related mineral deposits, namely, gypsum, phosphate, dimension stone and silican sand. Special reports on limestone were also prepared for the department.

The **Natural Resources Information Directory** which is an index to natural resource and land-related information for Alberta was distributed to a large number of government and private users.

A **Recreation and Conservation Information System** was assembled for Public Lands and Fish and Wildlife. This quarter section data base is designed to support recreation and conservation decision making within the White Zone of the province.

Resource Geoprocessing Services, responsible for the delivery of computer mapping and geographic information systems (G.I.S.) capabilities to the department, carried out several activities in the area of Facility Operation, Applications and Research. Facility Operations, in co-operation with Alberta Bureau of Surveying and Mapping, and Alberta Transportation and Utilities, developed an effective Disaster Recovery Plan to handle a wide range of possible emergencies. Several timely and efficient enhancements to existing software developments were accomplished to address data format conversions and digital elevation model data processing. Issues involved were data integrity, quality control, accuracy checks, streamlining, and fine translator structures.

The **Applications Section** focused on a series of G.I.S. pilots which were successfully completed with each of the management divisions. The intent was to expose divisional staff to G.I.S. technology and to assess the technical feasibility of supporting informational requirements in an automated environment. Another pilot is presently being tested for the Fort McMurray Integrated Resource Plan to further address similar capabilities in a co-operative spirit involving all divisions. Strategic plans have been developed and tabled regarding the implementation of several divisional automated prototype systems (e.g., Mineral Resources Graphic System).

The **Research Section**, recently established, is meant to support the ongoing and changing requirements for applications and facility operations. A series of remote sensing seminars was organized for departmental staff to raise awareness of the workable applications and processing of this technology. A Departmental User Needs/Functional Requirements Study was initiated to determine the range of information products to be produced from a G.I.S. Management functional responsibilities, information needs, product descriptions, and data type and volume requirements have been identified and catalogued.

Aerial Photography contracted in 1986/87 resulted in 375 individual projects covering a total of 164 267 square kilometres (63 407 square miles). Only one major small scale project was flown (at 1:40 000) for departmental updating of access base maps. Photographic mosaic maps were produced covering a total area of 10 965 square kilometres (4 232 square miles). The 1:20 000 scale **Provincial Digital Base Mapping Project** was supported through work in aerial triangulation and map sheet specification audits of contracted work. Aerial triangulation data was obtained for approximately 300 stereo models of 1:60 000 scale aerial photography and NTS block adjustments were completed for 529 stereo models of the same 1:60 000 scale photography. Approximately 1 100 map sheet units were audited for adherence to specifications. It is expected that specification changes will be proposed for 1987/88. Orthophoto maps were produced to cover 16 299 square kilometres (6 291 square miles) while two separate Alberta contractors were used to complete 17 large scale mapping projects totalling 1 000 square kilometres (386 square miles).

Work on the Provincial Digital Base Mapping Project (formerly the 1:20 000 Digital Base Mapping Project) reached a higher productivity gain over previous years primarily because of improved techniques and procedures by the surveying and mapping industry in this relatively new, high-tech field. The end of the fiscal year saw the completion of 1 000 of the required 2 775 base maps, with another 200 in various stages of production. The project will now, in all likelihood, be extended to 1991/92 for all base maps to be completed. Work has

commenced on the planning and implementation of a maintenance program in order to ensure the most current information is available to base map users. In addition, departmental clientele made 333 requests for a variety of cartographic and graphic services, requiring 2 198 man-days of internal support. Digital mapping products are now being used to complement traditional mapping methods for the provision of these graphic services. The update of the 1:50 000 Provincial Resource Base Maps also continued with 101 maps revised in high priority areas during 1986/87.

Production levels for the **Map and Air Photo Reproduction Services** remained relatively the same as in the previous year. Colour photographic originals have been retrieved from N.A.P.L. in Ottawa and are now stored in Edmonton. The colour reproduction of these rolls has been contracted to Alberta companies.

The **Technical Support Unit** completed the development of a computerized exposure meter for aerial photography. Much interest has been shown in this project by contractors and also by an aerial camera manufacturer. The testing of a new panchromatic emulsion with infrared extension was completed. Part of the 1987 aerial photography projects will be flown with this unique emulsion.

Alberta Bureau of Surveying and Mapping

Alberta Bureau of Surveying and Mapping co-ordinates all provincial surveying, mapping and land-related information systems development activities. It develops and maintains standards and ensures comprehensive coverage of the province. The Bureau also distributes maps, aerial photographs and survey information for the province and the federal and municipal governments. The Surveys Act, Land Surveys Act and Boundary Surveys Act are administered by the Bureau, and it also chairs the Interdepartmental Committee on Surveying and Mapping.

The Bureau provides the geographical positioning and standardized base mapping system for use by the province's public and private sectors as a common base for the recording, integration and display of position-dependent land-related information. The Bureau is also developing the policies, standards, and linking mechanisms which will allow land-related information to be shared and exchanged throughout the province's public and private sectors.

Major achievements in 1986/87 were:

- 438 new survey control markers were installed under the municipal survey control program to accommodate urban growth and normal maintenance activities. No additional municipalities were added in 1986/87. Control networks are now complete for one rural and 60 urban municipalities.
- A rewritten Surveys Act was presented to the Legislative Assembly during the 1987 spring session.
- A final draft of new Survey Regulations was completed.
- Land Surveys Branch contracted with private surveying firms to provide 806 field survey ties to township corners, in support of the 1:20 000 **Base Mapping Program.** Also contracted with private surveying firms was the subdivision for settlement of approximately 97 new sections of provincial lands in northern regions (Figure 21).
- The **Maps Alberta Program**, with funding by the Department of Forestry, Lands and

Wildlife Revolving Fund, completed its second full operating year.
- Technical Services, Program Support Branch, continued to provide high quality products and services with cost recovery under the Revolving Fund.

The **Land Related Information Services** (LRIS) completed its fourth year of operation. Highlights included:

- Adoption by the LRIS Steering Committee of the LRIS Network Conceptual Design and the Strategic Plan for Implementation.
- A pilot project to identify the linking mechanisms required and some of the potential capabilities for integrating the graphics (map) products of the Alberta Bureau of Surveying and Mapping with Land Titles records.
- Adoption of an Alberta Government policy to ensure the across-government compatibility of a land registry system developed by any of its departments.

Another major program is the planning and creation of a **Provincial Framework Survey Control Network.** A total of 566 survey control marker sites were visited in connection with the framework program. Current status is reflected in Figure 22.

Considerable progress was made toward the NAD 83 readjustment, which is scheduled for 1989.

Alberta Township System co-ordinates were upgraded to meet the 1:20 000 mapping requirements for approximately 800 1:20 000 map sheets. The status of this Land Survey Branch program is shown in Figure 23.

Figure 21 - Status of the 1:20 000 Base Mapping Program

Figure 22 - Status of Framework Control Program

Figure 23 - ATS Co-ordinates Computed in 1986/87

Maintenance of the **Municipal Land Survey Data Base** continued, with new co-ordinates computed for 182 and revised co-ordinates for 1 692, 1:1 000 map sheets. In addition, 5 085 plans of survey were examined for accuracy and compliance with provincial statues before submission to the Land Titles Office for registration.

The **Mapping Branch** continued development of the digital mapping system under the **Provincial and Municipal Mapping Programs.** Digital base data is being prepared at design scales of 1:1 000, 1:20 000, 1:250 000, and 1:1 000 000. A total of 2 882 maps, 1 752 bases, 3 264 digital files and 138 miscellaneous maps or charts were produced for use internally or by other government agencies and private industry. Mapping was completed for Three Hills, Swan Hills, and Westlock under the Municipal Mapping Program. Under the Provincial Mapping Program, high quality printing negatives were produced for the 1:750 000 multicoloured map from the 1:1 000 000 digital mapping base. The Geo-digital System Section continued to provide interactive graphic services with an increase of 60 per cent in photo plots to 2 135 and an increase of 96 per cent in pen plots over last year. Under the Department's Revolving Fund, the Mapping Branch continued to provide cartographic services with the 1987 Alberta Road Map and 1987 Alberta Weight Guide being completed as major projects.

Foreign Ownership of Land Administration

Foreign Ownership of Land Administration enforces the Foreign Ownership of Land Regulations, which control and restrict the acquisition by foreigners of privately owned agricultural and recreational land in the province. Another major responsibility is the administration of the Land Agents Licencing Act and Regulations, under which all land agents in the province are licenced and regulated. Land agents acquire from landowners the surface interests in land required for mining operations, oil and gas well sites, power transmission lines, pipelines and related purposes.

Figure 24 - Controlled Land Acquired by Foreigners

(Thousand Hectares)

Note:
"Controlled land" is defined in the Foreign Ownership of Land Regulations as any land outside the boundaries of a city, town, village or summer village. It does not include Crown land or minerals. "Foreigners" include ineligible persons and foreign-controlled corporations as defined in the regulations.

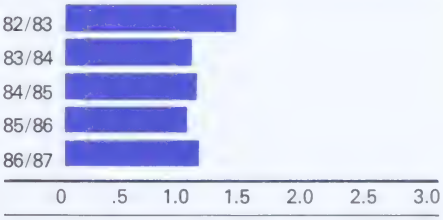
Source: Foreign Ownership of Land Administration

Figure 24 shows the amount of controlled land acquired by foreigners under various exemptions or exclusions from the Foreign Ownership of Land Regulations during the past five fiscal years.

Figure 25 shows the number of active land agents licences for the past five fiscal years.

Figure 25 - Active Land Agent Licences

(Thousand Licences)



Note:
Effective April 21, 1982, all new applicants for a licence are first issued an interim licence which they hold for a 12-month period under the supervision of a licenced land agent. After a satisfactory supervision period, and upon successful completion of the land agent examination, a land agent licence is issued.

Source: Foreign Ownership of Land Administration

Public Communications Branch

Forestry, Lands and Wildlife Public Communications became a separate entity in December, 1986. The Branch provides public relations consultation and advice to senior management, and an extensive range of public affairs services to the Department.

Services provided include: development and placement of advertising, ongoing media relations, news releases, displays, graphics, printing, audio-visual material, and many departmental publications.

Public Communications uses the resources of the Public Affairs Bureau in the co-ordination and production of print, graphics, display, and audio-visual materials.

An important initiative during the year was Wildlife '87, the national year-long observance of the 100th anniversary of the first wildlife sanctuary in Canada.

The focus of Wildlife '87 was on conservation of wildlife and its habitat. Individuals and groups, as well as businesses and government agencies, became involved in ongoing conservation efforts and in the creation of new programs.

For Forestry, Lands and Wildlife, this meant the dedication of new natural areas and ecological reserves, development or enhancement of wildlife and fisheries habitats, and the designation of a forest land use zone. Public Communications assisted in preparing media kits, co-ordinating media events, and preparing plaques, displays, and brochures.

Public Communications also continued production of its four-page monthly publication, the ***Renewable Resources Newsletter***. Ten times a year, the newsletter provides a quick overview of the policies, programs, and activities of the department. Approximately 6 000 copies are distributed. This year's issues included articles on the grazing lease conversion policy, Use Respect campaign, establishment of the Forest Industry Development Division, new Wildlife Act and regulations proclaimed, and first-time hunter tests planned.

Finance and General Services Division

The Finance and General Services Division, serving both Energy and Forestry, Lands and Wildlife, provides centralized support services in accounting, finance and administration.

The wide range of accounting responsibilities includes processing invoices, recording and depositing revenue, managing the collection of outstanding accounts, controlling the fixed asset recording system, and preparing quarterly and annual statements of revenue and expenditure.

Some 184 000 client accounts are in the Main Accounts Receivable System (MARS), which is linked with systems in Mineral Revenues, Mineral Agreements, Crown Lands and Timber Management.

In 1986/87, revenue collected and deposited totalled $45 million.

A major improvement was made in the manner in which revenue is processed within the department. A microcomputer system was implemented that allows on-line data entry, thereby eliminating much of the paper previously generated to record the receipt of revenue.

A new system for the processing of contract payments in Accounts Payable was implemented. This system records all contractual liabilities and automatically produces data entry documents suitable for entry into the DFS/CFS Central Accounting System (NFIS).

On October 1, 1986, a new accounting system (NFIS) replaced the Alberta Financial Information System (AFIS) that had been in use for over 10 years. The major task for the implementation team was to generate a new coding system that would provide consistent reports for management. An additional change was to have supplier invoices coded and entered in our department, thus ensuring prompt payment and earlier recognition of

the liability in the reporting system. As a result of this change, the time required for processing payments has decreased greatly.

The department uses microfilm computer retrieval system for tracking payment to suppliers. This state-of-the-art system eliminates the need to file payment documents chronologically, as the computer system is used to retrieve microfilmed copies of supplier invoices and supporting documentation. By automating the process, considerable manual effort has been eliminated, while at the same time providing a faster, more efficient retrieval system. With the implementation of NFIS, modifications were made to take advantage of interface capabilities of the central system. By using this capability, electronic data can now be passed from the central computer to a micro system, eliminating the need to enter document payment data.

Co-ordination of the changeover from AFIS to NFIS was assigned to Financial Planning and Control. New management reports available on NFIS were ordered, as well as control reports associated with in-house data entry. As NFIS is an on-line system, a security system for both data entry and data inquiry was implemented. A training program was designed and presented to field staff. This training program helped field staff adjust to the new coding structure, use the new forms, and understand the printouts they would be receiving from the new system. The conversion was implemented on time, with little or no disruption in service.

As a result of the coding system change, the Budget and Planning area was forced to rewrite the budget consolidation system that had been in use for the past five years. The system was upgraded to include changes in technology and to ensure that automated interfaces between the system and the government's central computer were possible.

To create more efficient systems for the department, the Financial Planning and Control group, with Treasury's approval, implemented a Self-Pay Purchase Order System (SPPO) throughout the department. The system allows expenditure officers throughout the province to order and pay for goods to a maximum of $250 by using a cheque attached to the purchase order. The system eliminates the requirements for suppliers to send invoices to the government for payment and also eliminates the matching process in the department. This removes administrative effort for both government and vendors. At the end of March, 1987, 238 expenditure officers were using the system, with approximately 1 500 cheques being issued per month. As the system becomes fully operational, these volumes are expected to increase.

During the year, a review of minor revenues was undertaken to ascertain if the rate being charged was recovering costs associated with the revenue activity. Where cost recovery did not occur, recommendations were made for rate increases. A study of MARS was undertaken to determine if the system could provide the information required for the revenue review. Changes recommended to management will be implemented in 1987/88.

The General Services Branch also provides a full range of administrative support services including Records Management, Accommodation Services, Graphics Production and the operation of a Crown Land information system (LSAS).

This year saw the completion of LSAS with the addition of subsurface agreement data to the system. In addition, LSAS now contains all Recreation and Parks, Alberta Municipal Affairs and Metis Development Branch Agreement data. A pilot project to support regional office access to LSAS was successfully carried out in Peace River. Expansion to St. Paul and Rocky Mountain House is planned for 1987/88. The system also supports access by seven other government departments. An increase of 1 000 per cent in the number of parcel inquiries has occurred since the automated system went on line in 1984.

The **Records Management Program** includes six functional areas: Mail and Messenger, Records Operation, Micrographics, Record Systems and Control, Calgary Operations and Library Services. The majority of these functions are automated to provide computer assistance for file location and control subject data base, and record retention and management reporting. Four hundred and fifty thousand quarter section land and agreement files, as well as 40 000 subject files, are accessible through this system.

These files, along with an average of 73 000 pieces of mail received monthly in the mail and file rooms for processing, and the average of 92 000 pieces of outgoing mail, support the program delivery of the operating divisions of the departments of Energy/Forestry, Lands and Wildlife.

Acquisition of computer graphics equipment has permitted improved service in the production of forms, slides and special presentation material. This has significantly enhanced presentation materials used in dealings with the public as well as with other government agencies.

The **Editorial Services Section** and the **Information Centre** serve both Energy and Forestry, Lands and Wildlife. Editorial Services provides professional editing and bibliographic control of all technical and general publications for both departments. A major project for the year was to computerize the bibliographic information for all publications produced by both departments.

The Information Centre, now in its fourth year, serves the public, the departments, and other government agencies by distributing general and technical publications, as well as selling various licences and permits. The centre also provides a directory and referral service.

The Information Centre had an increase of 38 per cent in transactions for this fiscal year, as compared to last year. The most noticeable increase was in distribution of technical publications.

The branch functions as the co-ordinator of capital construction and land assembly which, in 1986/87, amounted to $2.3 million for construction and $1.8 million for land assembly. Projects completed were:

a) Fish and Wildlife warehouse and yard at Fox Creek, Spirit River, Medicine Hat and Blairmore;
b) Pine Ridge Tree Nursery reservoir liner;
c) Completion of Cold Lake Fish Hatchery;
d) Centralized warehouse for Hinton Forestry Technology School; and
e) Acquisition of land parcels for Provincial Grazing Reserves, habitat areas for wildlife enhancement and protection, and access to fishing areas.

Internal Audit Division

The division assists management in the effective discharge of its responsibilities by providing analysis, appraisals, recommendations, and comments.

Reporting on financial activities continues to be important. Emphasis has been placed on reviewing techniques used by management to evaluate program efficiency and effectiveness, and to ensure that results are consistent with objectives.

Major computer-based systems are being examined to determine if controls are adequate and the needs of users and objectives of the system are being met.

Audits were completed according to plan and include numerous special reviews for management. In addition, deficiencies identified by earlier audits were reviewed to ensure corrections had been made. Public accounting firms were used to do selected audits.

The three-year audit program, a blueprint of future audit operations, is being updated in consultation with divisional management. It addresses the needs of the department and provides management with an operational overview. Particular emphasis is being placed on efficiency to assist management in meeting its downsizing goals.

Human Resources Division

The Human Resources Division is responsible for providing services in recruitment, classification, salary and wage administration, employee relations, staff and organization development, training, and occupational health and safety.

During the year, the division provided service for 1 723 permanent positions, 127 project positions, and approximately 2 500 wage positions. Although there was a four and one-half month hiring freeze, and a slight decrease in employment levels, the activity level remained high. To meet the demands of government restraint and maintain the high level of service, emphasis was placed on operational and organizational reviews. This involved structural and classification changes, redeployment of staff, re-employment counselling and organizational intervention.

In administering the **Special Employment Program** offered through Career Development and Employment, the department provided employment to 469 Albertans. This allowed them the opportunity to gain work experience in their fields of interest and prepare for full-time employment.

The **Early Retirement Program**, announced in January, 1987, resulted in considerable time being spent communicating the details of the program to staff, conducting individual counselling sessions with eligible employees, processing incentive packages and administering the Public Service Pension Plan.

The Training and Organizational Development area focused on modifications to the **Managing Human Resources Training Program** and working with a number of line divisions in developing human resource planning processes to meet current and future organizational requirements. Better systems for matching employee needs and abilities with organizational restructuring requirements were reviewed and established for these divisions. Manager profiles were developed that will be incorporated into a Human Resources Information System, and will be used for future developmental and manpower programs.

A major program co-ordinated by the training and organizational development branch this year was **Positive Public Contact**. The department wanted to ensure that they continued to create a positive image with the public, and as a result, a needs analysis was conducted and a number of plans implemented.

The **Occupational Health and Safety Program** continued to maintain a high profile within the department. The Safety Wise newsletter was published quarterly and distributed department-wide. A departmental planning session reviewed roles and responsibilities, identified programs and policy requirements, and established safety priorities. The Forest Technology School in Hinton, also part of the Human Resources Division, is a self-contained residential school complex providing educational services and training. Facilities are provided for meetings, seminars, and other activities of the department and outside organizations.

Over 40 different programs are available through the school. As well, the school provides the second-year course instruction for the Northern Alberta Institute of Technology (NAIT) Forest Technology Program.

The school was awarded a contract by the Federal Department of Indian and Northern Affairs to conduct a series of trapping and trapper instructor courses. The courses were highly successful and the plan is to continue the program for another five years.

Forest fire control training held a prominent role, with the emphasis on fire behaviour and first attack programs. The school is recognized as the leader in Canada for forest fire control training. As well, international recognition has been received through delegates from China, USSR and Finland. In addition, four Chinese men were trained in helicopter rappel techniques.

Automated Information Systems Division

The division provides technical expertise and leadership in automated data and word processing systems to the departments of Energy and Forestry, Lands and Wildlife.

On March 31, 1987, the two departments had 65 operational systems. During the year, eight systems were developed or had major enhancements made to them. Departmental system activities cost $11.8 million, representing a 10 per cent reduction from the previous year.

Over the last five years, EDP systems have been developed using common technology and shared data keys. Data can now be accessed and maintained in one place and shared to meet operational and decision support needs. There has been significant success with the integration of all sub-systems of the Mineral Revenues System that support Mineral Revenues management; the Land Status Automated System that supports the management of the Crown's mineral rights (sub-surface); and the Timber Records Enumeration and Evaluation System that supports the disposition and harvest of the province's timber resources.

The benefits of this approach have been:

a) the ability to continue to collect the Crown's share of non-renewable revenues at a time of rapid policy change, and to support the timely introduction of new incentive programs;
b) to support the province's negotiations concerning a countervailing duty on Canadian softwood lumber exported to the United States;
c) sharing of land data with land management organizations in the public and private sectors. This has improved the effectiveness of land management in the province while reducing the need for new systems development;
d) the increase of departmental revenue transactions and services to the public while reducing operating costs; and
e) the reduction of systems development and maintenance costs by an estimated 50 per cent as compared to industry standards.

The two departments will continue this strategic thrust with development initiatives to fully integrate the accounts receivable system with the other revenue and resource management systems. The development of an interface with the Natural Resources Information System will also continue to allow maps to be produced in support of decision making. In 1986, a pilot project to test the effectiveness of regional access to the departments' automated data assets was undertaken. As a result of its success, access from all regional sites will be provided over the next two years.

Systems developments over the year included:

a) the completion and implementation of the sub-surface component of the Land Status Automated System. Computer tapes of sub-surface data are now available to the public, to be followed shortly by tapes of surface data. This supports the Alberta Government's policy of providing electronic access to automated land data that is currently available to the private sector only in paper form;
b) the continued development and implementation of components of the Mineral Revenues System; and,
c) the development and implementation of an interface to the government's central financial accounting system (DFS/CFS).

Alberta Forestry, Lands and Wildlife
Statement of Revenue
For the Year Ended March 31, 1987 (Unaudited)

	1986/87 ($000)	1985/86 ($000) (Restated)
Taxes, Licences and Fees		
Fish and Wildlife Royalty and Taxes	$ 1	$ 32
Fishing Licences	1 037	997
Game Licences	3 918	3 965
Landman Licensing Fees	28	33
Forest Technology School Fees	366	433
Timber Dues and Fees	19 029	17 002
	24 379	22 462
Dispositions, Leases and Permits		
Agriculture Leases and Permits	736	965
Grazing Dispositions and Reserve Fees	4 674	4 743
Public Land Leases and Permits	840	1 134
Resources Development Surface Dispositions	7 245	3 714
Surface Material Dispositions	1 308	1 375
	14 803	11 931
Provincial/Federal Government Agreements	2 077	2 424
From Revenue Producing Assets	1 375	1 353
Sale of Assets		
Homestead and Land Sales	2 328	3 114
Miscellaneous Revenue		
Survey, Maps, Plans and Aerial Photography	192	(293)
Other	55	42
	247	(251)
Total Revenue	**$ 45 209**	**$ 41 033**

Prepared by
Financial Accounting Branch
Finance and General Services Division
September 03, 1987

Alberta Forestry, Lands and Wildlife
Statement of Expenditures
For the Year Ended March 31, 1987 (Unaudited)

	1986/87 ($000)	1985/86 ($000) (Restated)
Financial, Administration and Policy, and Advisory Services Divisions		
Finance and General Services	$ 7 411	$ 7 301
Automated Information Systems	3 312	3 037
Personnel Services	2 083	1 968
Internal Audit	335	350
Policy Analysis and Planning	625	618
	13 766	13 274
Other Divisions		
Resource Evaluation and Planning	11 848	11 492
Alberta Forest Service	72 879	79 505
Public Lands	17 698	18 956
Fish and Wildlife	23 744	25 349
Foreign Ownership of Land Administration	310	342
Alberta Bureau of Surveying and Mapping	9 924	10 111
	136 403	145 755
Executive Offices	534	484
Special Warrants and Special Programs		
Fire Suppression Activities	14 163	14 147
Crop Damage Compensation Claims	3 750	—
Cree Band Treaty Entitlement	17 600	—
Wildlife Crop Damage	—	1 525
Forest Products Special Warrant	—	109
	35 513	15 781
Total Expenditures	**186 216**	**175 294**
Less expenditure recoveries	502	1 418
Net Expenditures	**$185 714**	**$173 876**

Prepared by
Financial Accounting Branch
Finance and General Services Division
September 03, 1987

Alberta Forestry, Lands and Wildlife
Notes to the Financial Statements
For the Year Ended March 31, 1987

Note 1 - Comparative Figures
The 1985/86 figures have been restated where necessary to conform to the 1986/87 presentation.